S.A. ENGINEERING COLLEGE, CHENNAI-77
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING
SWARAKSHA – 2K22

OUR VISION

To achieve overall excellence in education, by continuously upgrading the teaching learning process, and incorporating latest technological advancements happening worldwide with ethical responsibilities.

OUR MISSION

- To impart sound diversified technical competency and quality education for students to enhance the employability and ethical values.
- To provide conducive environment for faculty and students with excellent facilities to improve research activity.

PROGRAM EDUCATIONAL OBJECTIVES

I. Our graduate Engineers will have diversified professional competency in Electronics and Communication Engineering and allied technologies with good foundation in Mathematics and basic sciences.

II. Our graduates will possess lifelong learning process and augment their engineering skills for new challenges with sustainability.

III. Our graduates will have effective communication skills and work in Multidisciplinary team with critical thinking.

IV. Our graduates will practice the profession with ethics, integrity, leadership and social responsibility.

PROGRAM OUTCOMES

1. To apply knowledge of mathematics, science and engineering appropriate to ECE discipline.
2. To formulate and analyze the complex engineering problems by using the principles of mathematics and engineering fundamentals.
3. To design and develop system (or) process to meet the desired needs within the realistic constraints of the societal and environmental considerations.
4. To investigate complex problems by conducting experiments, analyze interpret and synthesize the information to provide conclusions.
5. To select and use appropriate modern tools for solving complex engineering problems.
6. To apply reasoning knowledge for providing engineering solutions to societal needs with professional engineering practice.
7. To demonstrate the knowledge of engineering for providing environmental solutions and sustainable development.
8. To understand the ethical principles and professional responsibilities.
9. To function effectively as a member (or) a leader in multidisciplinary activity.
10. To deliver effective presentations and communicate at ease with the society.
11. To be successful member (or) leader in diverse teams with enhanced administrative skills and financial management.
12. To realize the need for lifelong learning and adopt themselves to technological changes.

ECE - SAEC

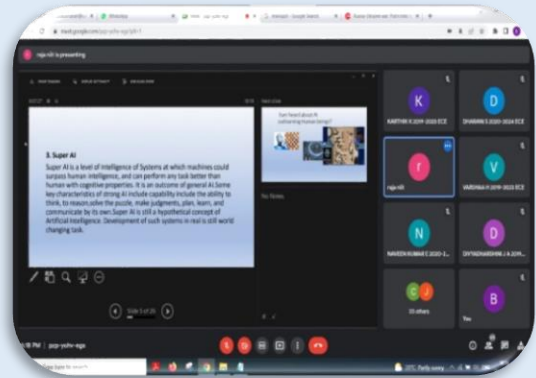## EVENTS ORGANISED BY ECE DEPARTMENT
GUEST LECTURE

Guest Lecture on **"PROFESSIONAL AWARENESS ACTIVITIES – IEEE STUDENTS"** by Ms R.Janani, Fellow at Tech for India on 04.03.2022.

Guest Lecture on **"AUTOMOTIVE TECHNOLOGIES FOR ARMOURED FIGHTING VEHICLES"** by Mohd.Khader Basha, Scientist G, CVRDE, DRDO on 08.03.2022.

Guest Lecture on **"ESSENTIAL SKILL SET FOR IT JOB ASPIRANTS"** by Mr.V.Prithviraj, Sr.Software Engr., Merit Group, Chennai on 12.04.2022.

Guest Lecture on **"PROGRAM ON ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING"** Mr.Rajasekar.N, Tech Mentor, NIIT, Chennai. on 21.04.2022.

Guest Lecture on **"INTELLECTUAL PROPERTY AND RIGHTS"** by Dr.K. Sathyanarayanan, Ed Tech Professional, Co-Founder IINVTY on 26.04.2022.

Guest Lecture on **"SERVICE NOW – CLOUD COMPUTING PLATFORM FOR MANAGING DIGITAL WORKFLOW"** Mr.Mukunth, DevOps Engineer, Nuvolov Tech. Pvt. Ltd… On 03.6.2022.

VALUE ADDED COURSES

- Seven days value added course **ON "CORE INDUSTRIAL PLACEMENT TRAINING ON FACTORY AND AUTOMATION PROCESS"** by Silicon Software Services during 27.12.2022 to 04.01.2023 for III year ECE students.

Seven Days Value Added Course on **"CORE INDUSTRIAL PLACEMENT TRAINING ON FACTORY AND AUTOMATION PROCESS"** by Silicon Software Services during 07.03.2022 to 17.03.2023 for II year ECE students

Six days value added course on **"ROBOTICS AND IOT"** by Silicon Software Services during 06.12.2022 to 21.12.2022 for II year ECE students.

Six Days Value Added Course On **"DATA STRUCTURE AND OOPS"** by Silicon Software Services during 08.12.2022 to 23.12.2022 for III year ECE students.

INDUSTRIAL VISITS

1. II year A Section Students went on an Industrial Visit to **"NATIONAL INSTITIUTE OF WIND ENERGY (NIWE)",** Pallikarani, Chennai-100 on 31.05.2022.

2. II year B Section Students went on an Industrial Visit to **"NATIONAL INSTITIUTE OF WIND ENERGY (NIWE)"**,Pallikarani, Chennai-100 on 31.05.2022

3. III year A & B Section Students went on an Industrial Visit **to "TECHNOCRAT AUTOMATION",** Choolaimedu, Chennai on 14.03.2022.

STUDENTS PARTICIPATION IN EXTRA CURRICULAR ACTIVITIES

1. **III Year** ECE Students has taken part in Signal Processing Using MATLAB workshop in Waves22 - Technical Event organized by Department of EEE, College of Engineering, Guindy Anna University on 5th may 2022.

2. **III Year** of ECE Students has Participated in Demystifying machine learning workshop held during waves 2022 at College of Engineering, Guindy Anna University on 5th may 2022.

3. **Ulageswari.S** of **III Year** of ECE B Student has secured **first prize in Paper Presentation at Waves22** a Technical Symposium organized by Department of EEE, College of Engineering Guindy, Anna University on 5th may 2022.

4. **III Year** of ECE Students has taken part in Embedded Controller workshop conducted by V.Sathishkumar in ELECTROFOCUS-22 and Technical Symposium held on May 7 & 8th 2022 organized by

Madras Institute of Technology(MIT) Chennai .

FACULTY PARTICIPATION IN WORKSHOP/FDTP/GUEST LECTURE

- Dr.G.Kavya., Professor, attended 3 days FDP on **"Embedded system design methodologies using INTEL FPGA "**Online from 15.12.21 to 17.12.21 .

- Dr.C.Arunachalaperumal, Professor, attended 4 days FDP on **"Leadership in Academia"** Online AICTE 21.03.2022 to 25.3.22.

- Dr.C.Arunachalaperumal , Professor, attended 4 days FDP on **"Advanced Signal Processing, Communications using AI and ML Techniques"** Online GMR INSTITUTE OF TECHNOLOGY 22.04.2022 to 25.4.22

- Dr. Tapas Bapu B R , Professor, attended 5 days STTP on **"Cyber security – challenges and technologies"** Online AICTE 3.1.2022 to 8.1.2022.

- Dr. Tapas Bapu B R, Professor, attended 7 days WORKSHOP on **"Ethical hacking and cyber security"** (Online) on 11.12.21 to 17.12.21.

- Dr.N.Anusha, Professor, Attended 5 days seminar on **"IoT : A journey from sensor to server"** (Online) sponsored by AICTE on 4.1.22 to 8.1.22.

- Dr.N.Anusha , Professor, Attended 5 days Workshop **on "Ethical hacking and cyber security "**(Online) on 11.12.21 to 17.12.21.

- Dr.N.Anusha ., Professor, Attended 5 days STTP on **" IOT Technologies and Analytics"** sponsored by AICTE (Online) On 18.01.22 to 24.01.22.

- Dr. S. Suvitha , Associate Professor, Attended 5 days FDP on **"Inculcating universal human values in technical education"** (Online) AICTE 3.01.22 to 7.2.22.

- Dr. S. Suvitha , Associate Professor, Attended 5 days workshop on **"Refresher programme on 5G Cognitive communication"** (Online) Sponsored by AICTE on 17.01.22 to 22.1.22.

- Ms. K.M. Dhanalakshmi , Associate Professor, Attended 5 days FDP on **"Advanced Electromagnetics and**

modern antenna design principles" online on 6.12.21 to 10.12.21.

- Ms. K.M. Dhanalakshmi, Associate Professor, Attended 5 days FDP on **"Inculcating universal human values in technical education"** (Online) AICTE 3.01.22 to 7.2.22.

- Mr. Pradeep.S , Associate Professor, Attended 5 days FDP on **"Advanced Electromagnetics and modern antenna design principles"** online on 6.12.21 to 10.12.21.

- Ms.Sasireka.P, Assistant Professor, Attended 5 days FDP on **"Advanced Electromagnetics and modern antenna design principles"** online on 6.12.21 to 10.12.21.

- Ms.M.Ramya., Assistant Professor, Attended 5 days FDP on **"UHV Refresher -I "**(Online) AICTE on 7.02.22 to 11.2.22

- Ms.P.Sasireka , Assistant Professor, Attended 5 days Workshop on **"Celebration of science festival Women in S&T and S&T for women"**(online) on10.03.2022.

- Ms.R.Aswini, Assistant Professor attended 30 days FDP **"master class on AI"** (Online) on 6.12.21 to 4.1.22.

- Ms.K.Mekala Devi, Assistant Professor Attended 7 days FDP on AICTE-ISTE Approved Orientation program on **"Machine Learning in Bio-Medical Engineering"** (Online) on 1.12.21 to 7.12.21.

- Mr. D. Balakumaran, Assistant Professor Attended 7 days FDP on AICTE-ISTE Approved **"Orientation program on Machine Learning in Bio-Med Engineering"** (Online) on 1.12.21 to 7.12.21

- Mr.M.Maria Rubiston, Assistant Professor Attended 5 days FDP on **"Inculcating universal human values in technical education"** (Online) AICTE 3.01.22 to 7.2.22.

- Ms.Vijayashanthi., Assistant Professor Attended 5 days FDP on **"UHV Refresher –I"** (Online) AICTE on 7.02.22 to 11.2.22

- Ms.Lourdhu Jennifer, Assistant Professor Attended 5 days FDP on **"Inculcating universal human values in technical education"** (Online) AICTE 28.02.22 to 4.3.22.

PUBLICATIONS BY FACULTY IN NATIONAL/INTERNATIONAL CONFERENCE & JOURNALS

- **Dr B R Tapas Bapu.,** Professor, **"Role of Silicon Carbide Nanoparticle on Electromagnetic Interference Shielding Behavior of Carbon Fibre Epoxy Nanocomposites in 3-18GHz Frequency Bands"**, Springer publications, Published Online 26/3/2022,SCIE,https://doi.org/10.1007/s12633-022-01825

- **Dr. B. R. Tapas Bapu.,** Professor **"FEBSRA: Fuzzy Trust Based Energy Aware Balanced Secure Routing Algorithm for Secured Communications in WSNs Wireless Personal Communications"** Published Online 5.3.2022, SCIE, https://doi.org/10.1007/s11277-022-09541-0

- **Dr B. R. Tapas Bapu.,**Professor **,"Role of cashew shell biochar on EMI shielding behaviour of carbon fibre–epoxy nanocomposites in E, F, I and J band–microwave frequencies Biomass Conversion and Biorefinery"** Published Online 30/3/2022, SCIE, https://doi.org/10.1007/s13399-022-02617-8

- **Dr B.R.TapasBapu.,** Professor, **"An efficient energy consumption and** delay aware autonomous data gathering routing protocol scheme using a deep learning Mobile edge model and beetle antennae search algorithm for Underwater wireless sensor network Concurrency and Computation"** 2022; e6946, Wiley Publications,21.02.2022,SCIE,DOI: 10.1002/cpe.6946.

- **Dr B.R.Tapas Bapu,** Professor**, "Underwater Wireless Sensor Networks with Energy Efficient Routing Protocol Using Load Balancing Technique"**, ECS Transactions, Conference Proceedings Volume 107, Number 1,IOP Publishing 2022,SCOPUS,https://doi.org/10.1149/10701.3589ecst

- **Dr B.R. Tapas Bapu.,** Professor, **"Secure Model for Smart Car Parking System using Web Application**" ,2022 4th International Conference on Smart Systems and Inventive Technology (ICSSIT), IEEE 20-22 Jan. 2022, SCOPUS,10.1109/ICSSIT53264.2022.9716235

- **Dr B.R.Tapas Bapu.,** Professor, **"Bio Inspired FFA Algorithm for Efficient Data Transfer in WSN "**2022 4th International Conference on Smart Systems and Inventive Technology

(ICSSIT) IEEE 20-22 Jan 2022 SCOPUS 10.1109/ICSSIT53264.2022.9716520.

- **Dr B. R. Tapas Bapu.,**Professor, **"Deep Reinforcement Extreme Learning Machines for Secured Routing in Internet of Things (IoT)"**, Applications Intelligent Automation & Soft Computing Tech Science Press Publisher 2022 SCOPUS DOI: 10.32604/ iasc.2022.023055 IASC, 2022, vol.34, no.2

- **Dr C.Arunachala Perumal** .,Professor,**"Nonlinear adaptive smart antenna resource management for 5G through to surveillance systems"** ,Materials Today: Proceedings Volume 43, Part 6, 2021, Pages 3562-357,5/12/21 SCOPUS,https://doi.org/10.1016/ j.matpr.2020.09.818

- **Dr Arunachalaperumal.,** Professor, **"Id3 Based Periodic Sampled Classifier Algorithm for The Enhancement of Routing Protocol in Wireless Sensor Networks",**PERIODICO di MINERALOGIA Volume 91, No. 4, 2022, June 2022, SCOPUS doi.org/10.37896/pd91.4/91429 ,ISSN: 0369-8963

- **Dr. G. Kavya,** Mekala Devi, R.Ashwini R,Priscilla M,Vijayashanthi , Professor, **"Oral cancer detection using CNN"** , International journal of creative research thoughts, ISSN – 2320 – 2882 Jan 2022 GOOGLE SCHOLAR Volume 10 , issue 1.

- **A. Benjamin Joseph,** R. Lourdu Jennifer, Professor, **" Integrated Health Care System Using Smart Wearables Based on Intelligent "**- Internet of Things 2022 8th International Conference on Smart Structures and Systems (ICSSS) IEEE Xplore 01 June 2022 Date of Conference: 21-22 April 2022 SCOPUS,DOI:10.1109/ICSSS54 381.2022.9782174

- **M. Maria Rubiston,** Assistant Professor, **"Prediction of OPTIMIZED Stock Market Trends using Hybrid Approach Based on KNN and Bagging Classifier (KNNB)"** 2022 IEEE 11th International Conference on Communication Systems and Network Technologies (CSNT) IEEE Xplore 08 June 2022 Date of Conference: 23-24 April 2022

SCOPUS DOI: 10.1109/CSNT54456.2022.9787638

- **Dr. G. Kavya.,Professor ,** ” **Hybrid deep learning based lung disease detection and classification”**, AICTE sponsored International conference on Artificial Intelligence and machine learning (IAIM -2022) ,27.01.22 to 29.1.22.

- **G.Balamurugan, Dr.C.Arunachalaperumal, Dr.Suvitha., ”Design and analysis of a compact slotted microstrip patch antenna for 5 G NR mm wave frequency band”** , International conference on advanced communication and computing and material sciences on 24.2.22 & 25.2.22.

- **D. Balakumaran., Assistant Professor,” Maximum Viability for WSN with Energy Harvesting and Cooperation by Drift Penalty and Perturbation Method “,** International conference on advances in science, engineering and technology 27.5.22.

- **M.Ramya.,Assistant Professor,” An optimized wireless network performance for secure data transmission and quality of service”,** International conference on advances in science, engineering and technology on 27.5.22 & 28.5.22.

- Mr.Bharaneedharan., Assistant Professor, **“A Constructive deep convolutional network model for ECG–based emotion recognition”**, AICTE sponsored International Conference on communication and computing technologies for sustainable development on 25.2.22 & 26.2.22.

CO-CORRICULAR ACTIVITIES

- ✓ The Department of ECE conducted **“INTER DEPARTMENT PAPER PRESENTATION”** on 04.05.2022 for all department students in association with ISTE.
- ✓ The Department of ECE conducted **“INTER DEPARTMENT PROJECT PRESENTATION”** on 09.05.2022 for all department students in association with ISTE.
- ✓ The Department of ECE conducted “**MINI PROJECT CONTEST**” on 16.05.2022 for

II,III,IV year ECE students in association with IETE .

- ✓ The Department of ECE conducted "**IETE AWARENESS PROGRAM ON TRENDS IN IOT**" on 16.05.2022 for II,III year ECE students in association with IETE .
- ✓ The Department of ECE conducted "**QUIZ COMPETITION**" on 02.05.2022 for II,III year ECE students in association with IETE .
- ✓ The Department of ECE conducted "**PROJECT CONTEST**" on 16.05.2021 for IV year ECE students in association with IETE .

PROGRAMME SPECIFIC OUTCOMES (PSO)

- To inculcate the ability to design quality products and to develop solutions which suits the real time societal needs by applying modern tools and the best universal practices.
- To define and adhere the communication standards leading towards green communication.
- To adapt to emerging Information and Communication Technologies (ICT) and to innovate ideas and solutions for the existing/novel problems

Forthcoming International Conferences/Seminars, Events at SAEC

1. National Level Technical Symposium ***NAKSHATRA-22*** on 14 September 2023.

2. National level workshop on **"IMPLICATION OF ARTIFICIAL INTELLIGENCE IN BIOMEDICAL IMAGING INTERNET OF THINGS-THE FUTURE TECHNOLOGY"** sponsored by **ICMR** in the month of December.

3. Two days National level Seminar on **"TECHNOLOGICAL UP-GRADATION AND DIGITIZATION FOR SUSTAINABLE ENERGY"** sponsored by **SERB** on December.

4. During the academic year 2022-2023, the following special training were offered for the II and III year ECE students.

   ● **Six Phrase** - Trained the students keeping Aptitude as the center of focus. Students were given online tests and written tests to compete with better skills.

   ● **STEP Placement Training** - Trained the students mainly in the technical areas with a view to increasing their confidence levels, HR techniques with which they would excel in HR rounds. Soft skills training was also offered with mock interviews.

   ✓   Value added courses on **"PROBLEM SOLVING BY USING C PROGRAMMING LANGUAGE"** by by Silicon Software Services for second year ECE in the month of November.

EDITORIAL BOARD